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EXAMINER	
ALI, MOHAMMAD	

ART UNIT	PAPER NUMBER
2166	

DATE MAILED: 04/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/703,381	DUJARI, RAJEEV	
	Examiner	Art Unit	
	Mohammad Ali	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *32-52 and 68-72* is/are pending in the application.

4a) Of the above claim(s) *1-31 and 53-67* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *32-52 and 68-72* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

MOHAMMAD ALI
PRIMARY EXAMINER

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This communication is in response to the arguments filed on 01/20/2006.

Claims 37-52 are pending in this Office Action. Claims 68-72 have been added as new

Response to Arguments

2. After further search and a thorough examination of the present application claims 37-52 and newly added claims 68-72 remains rejected.

Applicants' arguments with respect to claims 37-52 and newly added claims 68-72 have been considered, but they are not deemed to be persuasive.

First, Applicant's argue that office action has failed to "establish a prima facie case for obviousness" in page 12.

In response to applicant's argument on page 12, *a prima facie case of obviousness* is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. Once such a case is established, it is incumbent upon appellant to go forward with objective evidence of unobviousness. In re Fielder, 471 F.2d 640, 176 USPQ 300 (CCPA 1973).

Examiner is entitled to give claim limitations their broadest reasonable interpretation in light of the specification.

Interpretation of Claims-Broadest Reasonable Interpretation

During patent examination, the pending claims must be 'given the broadest reasonable interpretation consistent with the specification.' Applicant always has the opportunity to amend the claims during prosecussion and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 162 USPQ 541,550-51 (CCPA 1969).

Reference is made to MPEP 2144.01 - Implicit Disclosure

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968)

Subsequent to an analysis of the claims it was revealed that a number of limitations recited in the claims belong in the prior art and thus encompassed and/or implicitly disclosed in the reference (s) applied and cited. It is logical for the examiner to focus on the limitations that are "crux of the invention" and not involve a lot of energy and time for the things that are not central to the invention, but peripheral. The examiner is aware of the duties to address each and every element of claims, however, it is also important that a person prosecuting a patent application before the Office or an stakeholders of patent granting process make effort to understand the level of one of ordinary skill in the (data processing) art or the level one of skilled in the (data processing) art, as encompassed by the applied and cited references. The administrative convenience derived from such a cooperation between the attorneys and examiners benefits the Office as well the patentee.

In view of the above, the examiner contends that all limitations as recited in the claims have been addressed in this Action.

For the above reasons, Examiner believed that rejection of the last Office action was proper.

In response to applicant's argument, to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to

do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

"Test of obviousness is not whether features of secondary reference may be bodily incorporated into primary reference's structure, nor whether claimed invention is expressly suggested in any one or all of references; rather, test is what combined teachings of references would have suggested to those of ordinary skill in art."

In re Keller, Terry, and Davies, 208 USPQ 871 (CCPA 1981).

"Reason, suggestion, or motivation to combine two or more prior art references in single invention may come from references themselves, from knowledge of those skilled in art that certain references or disclosures in references are known to be of interest in particular field, or from nature of problem to be solved;" Pro-Mold and Tool Co. v. Great Lakes Plastics Inc. U.S. Court of Appeals Federal Circuit 37 USPQ2d 1626 Decided February 7, 1996 Nos. 95-1171, -1181

"[q]uestion is whether there is something in prior art as whole to suggest desirability, and thus obviousness, of making combination." Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company et al. U.S. Court of Appeals Federal Circuit 221 USPQ 481 Decided Mar. 21, 1984 No 83-1178.

Second, Applicants argue that Forecast does not teach, 'generating a plurality of subdirectory names, wherein each subdirectory name is random'.

In response to the applicant's arguments, the Examiner respectfully submits in particular, Forecast teaches this limitation as, Fig. 16 is describes the plurality of subdirectories generation and is shown a schematic allocating server RAM to a popular movie. In FIG. 16, a block of data for a third of a movie is stored in the RAM of each of four stream servers 91, 92, 93, and 94. There is a significant amount of overlap between the video data stored in the RAM of the four stream servers in order to simplify scheduling (see col. 23, lines 42-59 et seq., Forecast).

Third, Applicants argue that no prior art of record teaches, 'creating a plurality of randomly-named cached directories, one for each random subdirectory name generated, such that each randomly-named cache directory created is uniquely associated with a corresponding randomly-named subdirectory' in page 13.

In response to the applicant's arguments, the Examiner respectfully submits in particular, Forecast teaches this limitation as, each node has a list of resources and current allocations of the resources. Associated with each active data stream is a list of pointers to the nodes and current allocations for the data stream. The controller of the file server has programs for automatically creating the dynamic model, modifying the dynamic model in response to component changes such as component failures, enforcing a scheduling and admissions policy by allocating resources for a path for a data stream during a search through the dynamic model in response to a client request for data access, de-allocating resources in response to an end-of-stream condition, and balancing allocations of resources to data streams in order to free resources to allocate

a path for a requested data stream. In Figs. 45 and 46, there is shown a block diagram of a particular instance of a video file server 620 including two stream servers 621, 622 in FIG. 45 and a cached disk array 623 in FIG. 46. The first stream server 621 has a first network interface link adapter 624 receiving a first data link 625 from a data network 626 in FIG. 45, and a second network interface link adapter 627 receiving a second data link 628 from the network 626. The first network interface link adapter 624 is supported by a first network interface physical network 625, and the second network interface link adapter 627 is supported by a second network interface physical network 629. The first and second network interface physical networks 625, 629 are linked through a network interface logical sub-network 630 to a cache buffer 631 of the stream server 621. The stream server 621 has two SCSI interfaces 632, 633, linking the cache buffers 631 to the cached disk array 623 of FIG. 46 (see col. 61, lines 6-23 and Abstract, Forecast).

Forecast does not explicitly indicate claimed uniquely named subdirectory.

Smith remedy such kinds of deficiency by teaching cataloguing optical discs, the cataloguing step including the generation of a unique contents-based value for each of the catalogued discs, the unique value produced by iteratively reading data from the target disc and condensing the data using a selected hashing algorithm; producing limited catalogues representing file and directory information on the optical discs, the limited catalogues confined to a fixed maximum number of subdirectory levels, the limited catalogues including files and directories on the disc possessing attributes which match a specific set of filter parameters, the fixed maximum number of subdirectory,

levels selected by a user, and the filter parameters selected by a user; and caching optical disc data to a hard disc, the cached data being written to the hard disc when the optical disc data is requested more frequently than other optical disc data, the request being monitored by a caching file system, the caching file system determining when the request for data can be satisfied by cached data, the caching file system satisfying the request by accessing and communicating requested data from the cache, see col. 2, lines 14-35, Smith).

It would have been obvious to one ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because uniquely named subdirectory of Smith's teaching would have allowed Forecast's system to access and update a library of optical discs as suggested by Smith at col. 1, line 14. Further, uniquely named subdirectory as taught by Smith improves to optimize performance of the optical disc management system by caching information from optical discs (see col. 25, lines 10-11, Smith).

Fourth, Applicant's argue that Forecast teaches away from the present invention in page 14.

In response to the applicant's argument the Examiner respectfully submits that applicant's claimed invention and prior art applied have the same endeavor as explained in above and details Office Action. Therefore, Smith references inherently or explicitly teaches claimed invention.

Fifth, Applicants argue that Forecast does not teach, 'automatically balancing files among each of the selected directories' in page 15.

In response to the applicant's arguments, the Examiner respectfully submits in particular, Forecast teaches this limitation as, allocation balance is used as a background process to keep open paths to datasets. The dynamic model automatically creates to collect information about what components are installed in the file server, the resources of the installed components, and connections between the installed components, see col. 67, lines 41-47, Forecast.

Sixth, Applicants argue that Forecast does not teach, 'balancing files among directories'.

In response to the applicant's arguments, the Examiner respectfully submits in particular, Forecast teaches this limitation as, a server window RAM is assigned to the movie, and a task is initiated to load this server window RAM with duplicate movie data fetched from the cached disk array. If more than one stream server PC has an unallocated window, then one of these stream servers should be selected in an attempt to balance the loading on all of the stream servers (see col. 25, lines 35-40, Forecast).

Seventh, Applicants argue that Forecast teaches away, 'load balancing among the files' in page 17.

In response to the applicant's arguments, the Examiner respectfully submits in particular, Forecast teaches load balancing files not teaches away as stated above.

Eigth, Applicants argue that neither Forecast nor Smith teaches, 'automatically balancing files among each of the plurality of randomly-named cache directories includes determining when a randomly-named cache directory has a number of files stored therein that exceeds a limit' in page 17.

In response to the applicant's arguments, the Examiner respectfully submits in particular, Forecast teaches this limitation as stated above and, making scheduling and admissions decisions based on the actual resources available in a file system and possible routings rather than conservative estimates of available resources. By dynamically modeling the data stream handling components in the file system and their connections and resources, the scheduling and admissions decisions can be based on a search for all possible routings. Allocation balancing can free resources to enable routing of a stream that would otherwise be blocked. Allocation balancing can also be used as a background process to keep open paths to datasets that might otherwise be blocked. The dynamic model can be created automatically by collecting information about what us components are installed in the file server, the resources of the installed components, and connections between the installed components, see col. 67, lines 33-46, Forecast. Further, a network client requests backup of a new file or data set, the volume manager allocates disk and tape storage to the new file or data set and updates the catalog, see col. 28, lines 47-59 and col. 44, lines 50-52.

Finally, Applicants argue that neither Forecast nor Smith teaches, 'maintaining an index including a directory name for each of the plurality of randomly-named cache directories, and for each directory name, maintaining a file count of a number of files stored therein' in page 18.

In response to the applicant's arguments, the Examiner respectfully submits in particular, Forecast teaches this limitation as stated above, a processing loop that is traversed once for each transfer unit of data to be written to the same parity group

containing at most one transfer unit of data in each disk drive of the RAID set. The old version of the transfer unit of data indexed by tui is read from the disk drive indexed by DI beginning at the starting block address SEA. The old version read from disk is added to the parity buffer using an exclusive-OR operation in order to compute parity changes due to the writing of the new version over the old version, and in order to accumulate these parity changes in the parity buffer, see col. 32, lines 30-39.

Hence, Applicants' arguments do not distinguish over the claimed invention over the prior art of record.

In light of the foregoing arguments, the 103 rejections are hereby sustained.

The application has been examined and claims 37-52 are pending in this Office Action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 37-52 and 68-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forecast et al. ('Forecast' hereinafter), US Patent 6,230,200 B1 in view of Smith, II et al. ('Smith' hereinafter), USP, 5,884,298.

With respect to claim 37,

Forecast discloses a computer-implemented method (see col. 1, lines 16-19) , comprising:

generating a plurality of subdirectory names, wherein each subdirectory name is random (see col. 8, lines 26-30, Forecast);

creating a plurality of randomly-named cache directories, one for each random subdirectory name generated (see col. 67, lines 40-47, Forecast), such that each randomly-named cache directory created is uniquely associated with a corresponding randomly-named subdirectory (see col. 53, lines 14-18, Forecast);

storing a plurality of files under the plurality of randomly-named cache directories, each of the plurality of files having a predictable filename (see col. 2, lines 14-16, Forecast); and

automatically balancing the files among each of the plurality of randomly-named cache directories (see col. 67, lines 40-47, Forecast).

Forecast does not explicitly indicate claimed uniquely named subdirectory.

Smith teaches uniquely named subdirectory (cataloguing optical discs, the cataloguing step including the generation of a unique contents-based value for each of the catalogued discs, the unique value produced by iteratively reading data from the target disc and condensing the data using a selected hashing algorithm; producing limited catalogues representing file and directory information on the optical discs, the limited catalogues confined to a fixed maximum number of subdirectory levels, the limited catalogues including files and directories on the disc possessing attributes which match a specific set of filter parameters, the fixed maximum number of subdirectory

levels selected by a user, and the filter parameters selected by a user; and caching optical disc data to a hard disc, the cached data being written to the hard disc when the optical disc data is requested more frequently than other optical disc data, the request being monitored by a caching file system, the caching file system determining when the request for data can be satisfied by cached data, the caching file system satisfying the request by accessing and communicating requested data from the cache, see col. 2, lines 14-35, Smith).

It would have been obvious to one ordinary skill in the data processing art at the time of the present invention to combine the teachings of the cited references because uniquely named subdirectory of Smith's teaching would have allowed Forecast's system to access and update a library of optical discs as suggested by Smith at col. 1, line 14. Further, uniquely named subdirectory as taught by Smith improves to optimize performance of the optical disc management system by caching information from optical discs (see col. 25, lines 10-11, Smith).

As to claim 38,

Forecast teaches receiving information corresponding to a new file to store (see col. 11, lines 47-48, Forecast).

As to claim 39,

Forecast teaches wherein automatically balancing files among each of the plurality of randomly-named cache directories includes determining which of the directories has a Least number of files therein (see col. 5, lines 50-51, Fig. 14, Forecast).

As to claim 40,

Forecast teaches wherein automatically balancing files among each of the plurality of randomly-named cache directories includes determining when a randomly-named cache directory has a number of files stored therein that exceeds a limit (see col. 5, lines 50-51, Forecast).

As to claim 41,

Forecast teaches receiving information corresponding to a new file to store, determining that each of the plurality of randomly-named cache directories has a number of files therein that exceeds a Limit, and automatically creating at least one new randomly-named cache directory (see col. 20, lines 10-13, Fig. 3, Forecast).

As to claim 42,

Forecast teaches for each file, tracking which of the plurality of randomly-named cache directories that file is stored in (see col. 2, lines 15-17, Forecast).

As to claim 43,

Forecast teaches maintaining a count of a number of files stored in each of the plurality of randomly-named cache directories (see col. 2, lines 15-17, Forecast).

As to claim 44,

Forecast teaches wherein at least one of the plurality of randomly-named cache directories caches content downloaded from a server (see col. 2, lines 15-17, Fig. 6, Forecast).

As to claim 45,

Forecast teaches maintaining a table including sewer content references and filenames covered therefrom (see col. 2, lines 15-17, Fig. 20, Forecast).

As to claim 46,

Forecast teaches wherein automatically balancing files among each of the plurality of randomly-named cache directories includes determining a randomly-named cache directory having a lowest file count, and moving files from another randomly-named cache directory to the randomly-named cache directory having the lowest file count (see col. 2, lines 15-17 and Abstrat, Forecast).

As to claim 47,.

Forecast teaches maintaining an index including a directory name for each of the plurality of randomly-named cache directories, and for each directory name, maintaining a file count of a number of files stored therein (see col. 2, lines 56-60 et seq, Forecast).

As to claim 48,

Forecast teaches comparing the number of files in one of the pluralilty of randomly-named cache directories having the least number of files therein against a predetermined threshold value, and based on the comparison, generating at least one additional randomly-named cache directory (see col. 2, lines 15-17, Fig. 2, and Abstract, Forecast).

As to claim 49,

Forecast teaches maintaining an indexed directory table including data corresponding to each of the plurality of randomly-named cache directories therein, and

maintaining a table including file information and corresponding file directory information for each file in one of the plurality of randomly-named cache Directories (see col. 8, lines 10-15, Fig. 3, Forecast).

As to claim 50,

Forecast teaches wherein automatically balancing files among each of the plurality of randomly-named cache directories includes moving at least one file from one of the plurality of randomly-named cache directories to another of the plurality of randomly-named cache directories following deletion of at least one other file (see col. 8, lines 10-15, Fig. 3, Forecast).

As to claim 51,

Forecast teaches maintaining a file count of a number of files stored in each of the plurality of randomly-named cache directories, and wherein automatically balancing files among each of the plurality of randomly-named cache directories includes moving at least one file out of one of the plurality of randomly-named cache directories when the file count maintained therefor is below' a threshold value (see col. 8, lines 10-15, Fig. 3, Forecast).

As to claim 52,

Forecast teaches removing one of the plurality of randomly-named cache directories based on the file count maintained therefor (see col. 6, lines 30-35, Fig. 1, Forecast).

Claims 68-72 have the same subject matter as of claims 32-52 and essentially rejected for the same reasons as discussed above.

Remarks

5. Rustad et al. (USP, 5,442,760) also teaches claimed invention including uniquely named cache subdirectory.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Ali whose telephone number is (571) 272-4105. The examiner can normally be reached on Monday-Thursday (7:30 am-6:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T. Alam can be reached on (571) 272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohammad Ali
Primary Examiner
Art Unit 2166

MA
April 10, 2006